MECHANICAL ENGINEERING NEWS

September 4, 2007

A newsletter for the UML Mechanical Engineering community (also available online at http://mechanical.uml.edu)

Contact john_mckelliget@uml.edu with any items you would like to see included in the newsletter

Calendar

Sept 6 Deadline to sign up for Fall FE exam
Sept 4 Freshman Convocation and BBQ
Sept 18 End Add/Drop
Oct 3 Dean's list reception. Alumni Hall
Oct 8 Columbus Day, University Closed
Oct 10 Monday schedule
Oct 21 University Open House
Oct 24 Career Fair
Oct 27 Fall FE Exam
Oct 29 Advising Begins
Nov 9&15 Ice Skating. Tsongas Arena

Welcome

Welcome back to all our returning students, and a big welcome to our new freshmen and transfer students.

We just received the final report from the ABET accreditation visit that took place in Fall 2007. The ME department received a full six-year accreditation, with no weaknesses or deficiencies. This was definitely our most successful accreditation visit ever, and I would like to thank all faculty, staff, advisory board members, and students that contributed to the visit.

We have completely renovated the computer lab. Please, no food or drink is allowed inside the lab. Violations of this rule could result in loss of computer privileges. We are also in the process of a major equipment upgrade to the machine shop. We will be purchasing a 3-axis CNC milling machine and six new lathes.

I encourage students to get more involved with the Department. I will be organizing new membership of the ME Student Advisory Council (MESAC) and all graduate and undergraduate students (including, and especially, freshmen) are encouraged to participate.

- Prof McKelliget

Society for Experimental Mechanics

Four students from the mechanical engineering department's Structural Dynamics and Acoustic Systems Laboratory attended the SEM Spring Conference as part of the Student Paper Competition in June 2007 in Springfield, Massachusetts. Papers were presented by Berke Gur on *Wavelet Domain Estimation of Frequency Response Functions*, Peter Tavilla on *Correlation of Impact Testing with Geological Properties of Aggregate Core Samples*, Adam Butland on *Comparison of Dynamic Characteristics of Various Performance Level Snowboards*, and Dana Nicgorski on *Variability in Modal Characteristics of Composite Structures*.

Twenty five abstracts were received, eighteen were selected for presentation and three papers were awarded best overall presentation. Peter Tavilla won third place in the competition. Congratulations !

Shown (left to right) are Adam Butland, Dana Nicgorski, Peter Tavilla and Berke Gur.

Recent Research Contracts

Prof. Niezrecki has been awarded an $18,000 contract from the National Collegiate Inventors and Innovators Alliance (NCIIA). The project is titled *Flashback Lighting System*. Prof. Robert Malloy (PE) is Co-PI.

Prof. Avitabile has been awarded a $5500 contract from the Bobcat Company for a project titled *Technical Support for the Modal Analysis activities at Bobcat Company*.

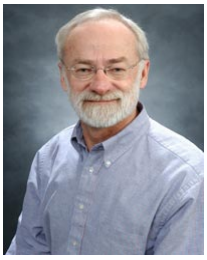
Profs. Niezrecki, Avitabile, Chen, Sherwood, and Kurup (CEE) have been awarded a $490,000 equipment grant from the National Science Foundation. The grant will be used to purchase a 3D Scanning Laser Vibrometer. Only one other university in the country currently possesses this equipment.

Profs. Niezrecki , Chen, and Niemi have been awarded a 4 month research contract extension from the U.S. Army Natick Soldier Center RDECOM (Airdrop/Aerial Delivery Directorate). The project is titled *Deformation Measurement and Modeling of Parachute Fabric Using Imaging and Smart Material Sensors*. The award amount is $75,000.

Profs. Kurup (CEE), Kumar (Physics), Sun (ME), Gu(CE), and Nagarajan (PE) were recently awarded a $800,000 grant from the National Science Foundation. The project is titled *EXP-LA: High Precision Detection and Prediction of Explosives Based on Multiple Sensing Systems and Data Fusion.* This project will involve The development of explosive detection systems based on multiple types of sensors and the use of data fusion to improve the precision of detection and prediction.

These research contracts demonstrate the interdisciplinary nature of much of the research that takes place at UMASS Lowell.

Patent Awarded



A patent was recently awarded to mechanical engineering professor John Duffy for an electrolyzer pressure equalization system.

Commencement 2007

Shown below are the ME students who graduated in May 2007